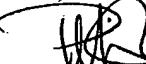


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : Wu et al.
09/930,781
Filed : August 15, 2001
Entitled : PROPAGATION OF HUMAN HEPATOCYTES IN NON-HUMAN ANIMALS
Group Art Unit : 1632
Examiner : Anne Marie Baker

I hereby certify that the correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on

December 17, 2002


Peter J. Shen (Reg. No. 52,217)

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SUBMISSION OF FORMAL DRAWINGS

Assistant Commissioner for Patents
Washington, D.C. 20231

Attention: Official Draftsperson

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Sir:

Enclosed herewith are 35 sheets of formal drawings for Figures 1-32 in connection with the above-identified application. Please substitute these formal drawings for the drawings previously filed in this application. The enclosed formal drawings fully comply with the requirements of 37 C.F.R. § 1.84(a). No fee is believed due in connection with this submission. However, should any fee be due, the Commissioner is hereby authorized to charge payment of such fee to Deposit Account No. 02-4377.

Respectfully submitted,


Lisa B. Kole

Patent Office Reg. No. 35,225

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Peter J. Shen
Patent Office Reg. No. 52,217

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RESPONDER CELLS: RAT SPLEEN CELLS
STIMULATOR CELLS: HUMAN HEPATOCYTES

SPLEEN(S): SPLEEN CELLS FROM RATS
TREATED WITH SALINE WHEN THEY WERE
FETUSES.

HEP: IRRADIATED HUMAN HEPATOCYTES.

SPLEEN(IU): SPLEEN CELLS FROM RATS
TOLERIZED BY INTRAUTERINE INJECTION OF
HUMAN HEPATOCYTE LYSATES.

SPLEEN(IU/IS): SPLEEN CELLS FROM RATS
TOLERIZED BY INTRAUTERINE INJECTION OF
HUMAN HEPATOCYTE LYSATES FOLLOWED
BY INTRASPLENIC TRANSPLANTATION OF
HUMAN HEPATOCYTES AFTER BIRTH.

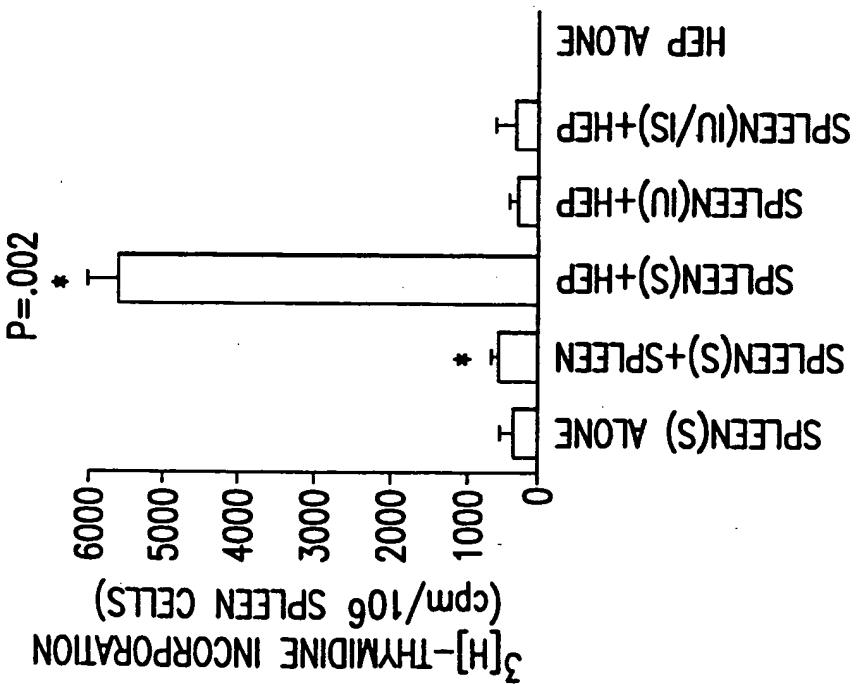


FIG. 1



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1 2 3 4 5

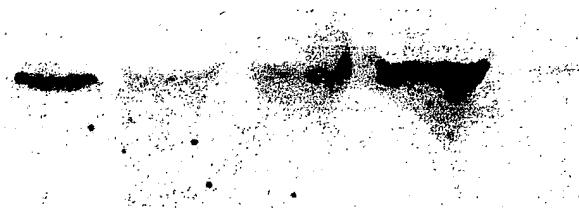
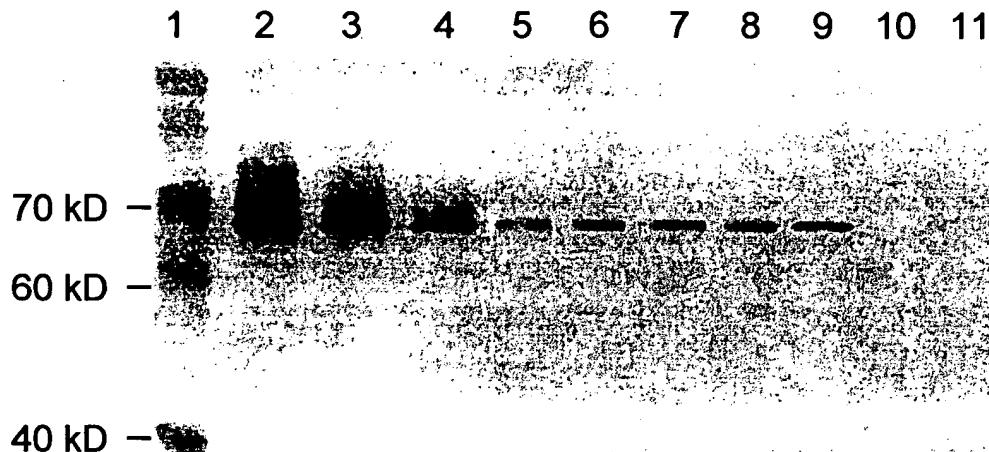


FIG.2

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- 1: Molecular weight markers
- 2: Human serum albumin, 50 μ g
- 3: Human serum albumin, 10 μ g
- 4: Human serum albumin, 1 μ g
- 5: Week 1 post-human hepatocyte transplant
- 6: Week 2 post-human hepatocyte transplant
- 7: Week 3 post-human hepatocyte transplant
- 8: Week 4 post-human hepatocyte transplant
- 9: Week 5 post-human hepatocyte transplant
- 10: Control animal. human fibroblast transplant. 1 week
- 11: Rat serum albumin, 50 μ g

FIG.3



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FIG.4A



FIG.4B



FIG.4C



FIG.4D



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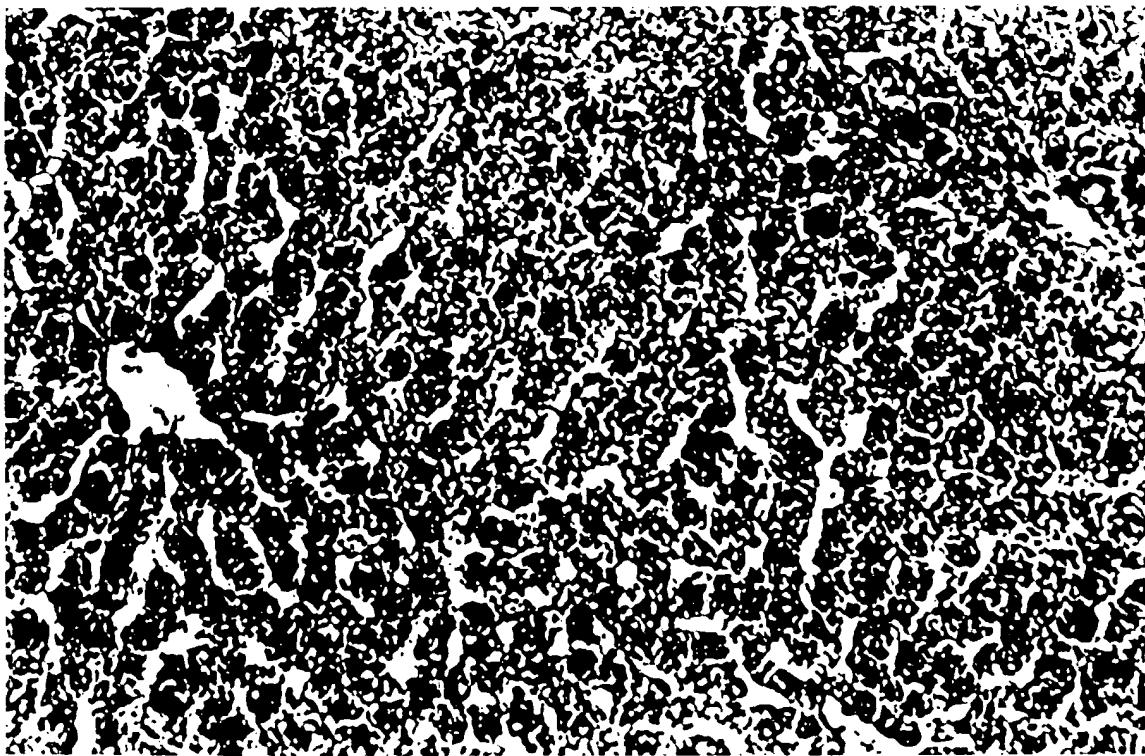
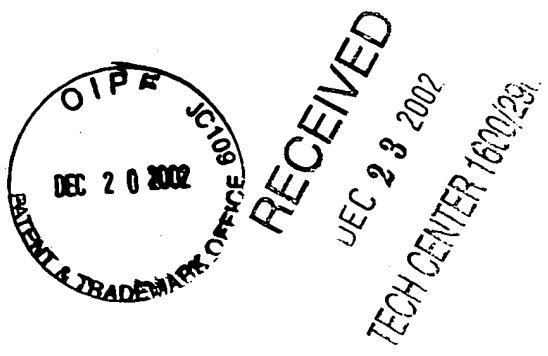


FIG. 5



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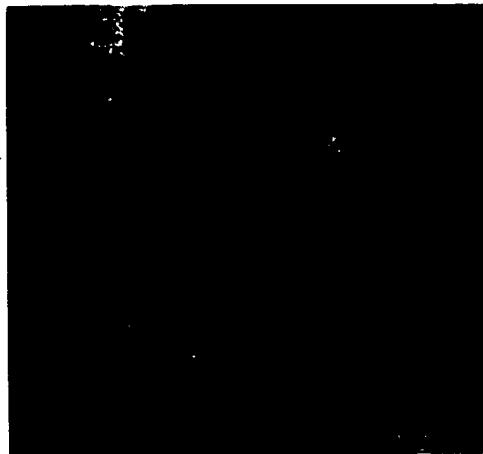


FIG.6A

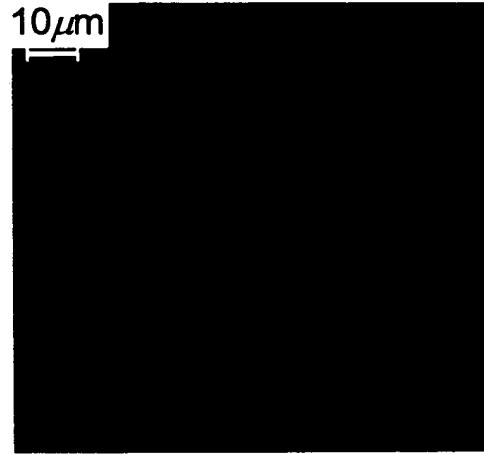


FIG.6B



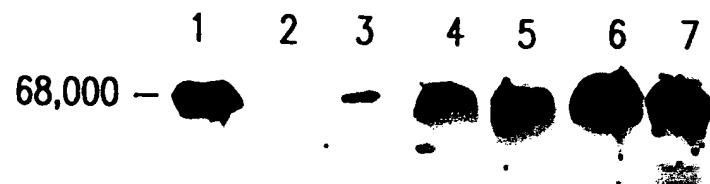
FIG.6C



FIG.6D

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- 1: 10 ng standard human albumin
- 2: 10 ng standard rat albumin
- 3: 2 days
- 4: 2 weeks
- 5: 3 weeks
- 6: 5 weeks
- 7: 6 weeks

FIG.7



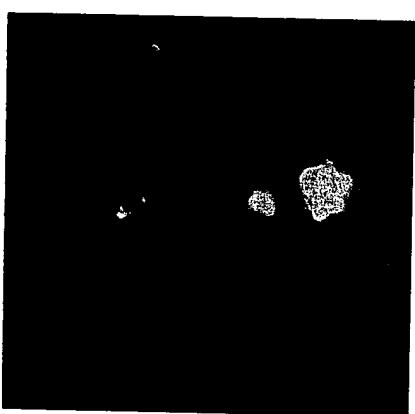
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Time course of human albumin and HBV expression

Anti Human Albumin

1 week



Anti Hepatitis B Surface Antigen

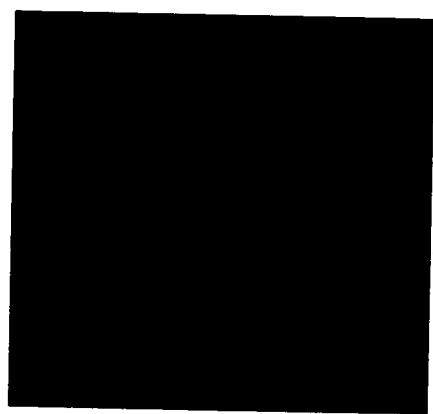


FIG.8A

FIG.8B

6 weeks



FIG.8C

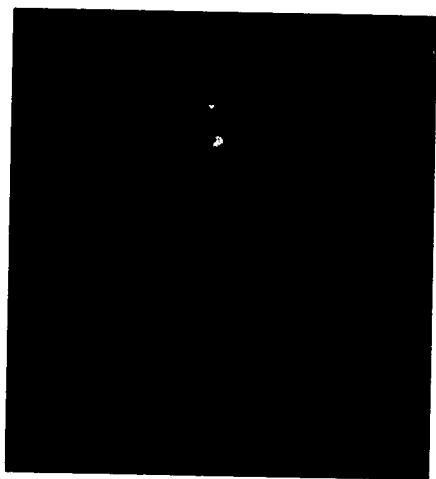


FIG.8D